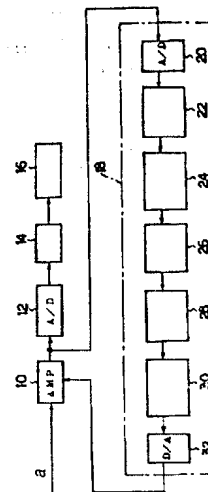


(54) ULTRASONIC IMAGE PROCESSOR

(11) 5-245147 (A) (43) 24.9.1993 (19) JP
 (21) Appl. No. 4-50503 (22) 9.3.1992
 (71) ALOKA CO LTD (72) MASARU MURASHITA
 (51) Int. Cl.⁵. A61B8/14, G01N29/22

PURPOSE: To always from an ultrasonic image with optimal density by executing feedback control to an amplification degree of an amplifier for amplifying a receiving signal.

CONSTITUTION: A receiving signal outputted from an amplifier 10 is sent to an area setting circuit 22 through an A/D converter 20, a receiving signal in a prescribed area is extracted therein, and a histogram is prepared by a histogram circuit 24. A smoothing circuit 26 executes smoothing to the histogram, and a peak retrieval is executed by a peak retrieving circuit 28. A gain value deciding circuit 30 derives a difference amount between the histogram which becomes a reference and the actual histogram, and based on its difference amount, an amplification degree of the amplifier 10 is determined.



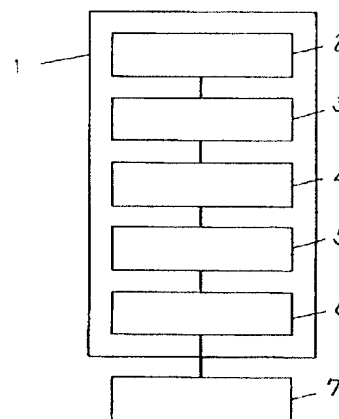
14: memory, 16: monitor, a: receiving signal

(54) SLEEPING SENSE INFERRING DEVICE AND ALARM DEVICE

(11) 5-245148 (A) (43) 24.9.1993 (19) JP
 (21) Appl. No. 4-50320 (22) 9.3.1992
 (71) MATSUSHITA ELECTRIC IND CO LTD (72) HIROYUKI OGINO
 (51) Int. Cl.⁵. A61B10/00, A61B5/0245, A61B5/08, A61B5/11, A61M21/00

PURPOSE: To optimumly infer a sleeping sense so that agreeable awakening is brought on in the case an alarm is operated by detecting living body information such as a body motion, a heart beat and breathing, etc., of a sleeper, and deriving the sleeping sense of the sleeper from its detecting signal.

CONSTITUTION: A piezoelectric element 2 formed like a tape by forming a high polymer piezoelectric material such as polyvinylidene fluoride, etc., in a shape of a thin film and sticking a flexible electrode film to both faces is fixed to the surface of a mattress, and the piezoelectric element 2 is deformed by a minute body motion by propagation of a heart beat action of the human body on bedding, and a rough body motion such as turning-over in sleep, etc. An output signal which follows the deformation of this piezoelectric element 2 is inputted to a comparing means 6 through a filter 3, an amplifying means 4 and a smoothing means 5, and from generation frequency of the rough body motion decided thereby, a sleeping sense such as sleep is light or heavy is inferred by a sleeping sense output means 7. Also, by operating an alarm, etc., at an optimal time when a sleeper does not feel sleepy, he is awakened, and also by using a neural network, learning for inferring a sleeping sense is executed.



1: organism information detecting means

(54) CAR SICKNESS DETECTING DEVICE

(11) 5-245149 (A) (43) 24.9.1993 (19) JP
 (21) Appl. No. 4-50319 (22) 9.3.1992
 (71) MATSUSHITA ELECTRIC IND CO LTD (72) MASAHIKO MATSUNAKA
 (51) Int. Cl.⁵. A61B10/00, A61B5/00, A61B5/0245

PURPOSE: To provide a more appropriate service to a passenger by detecting automatically a degree of car sickness.

CONSTITUTION: A piezoelectric element embedded in a seat detects a pressure variation on the contact face of a passenger and the seat, and a heart beat detecting device 2 calculates the number of heart beats of the passenger from a heart beat component contained in a signal from the piezoelectric element 1. Moreover, an inferring device 8 infers a degree of car sickness of the passenger from a timewise variation of the number of heart beats and its result is displayed on an LED panel 9 being an output device. In such a way, the crew can grasp a state of the passenger.

